

Supplemental Figure Captions:

Supplemental Figure 1: Optimal cluster selection of the early vs mid-late pandemic stage using the silhouette method

Line plots of the optimal number of clusters determined by the silhouette method based on hospital-level repurposed medication use in the early vs mid-late pandemic stage.

The y-axis shows the average silhouette width, representing how well-matched hospitals within a cluster are compared to hospitals in other clusters.

The x-axis shows the number of clusters.

The dotted vertical line represents the optimal number of clusters.

Supplemental Figure 2: Average silhouette width of the early vs mid-late pandemic stage using the optimal clusters determined by the silhouette method

Bar plots depicting the average silhouette width using the optimal number of clusters determined by the silhouette method.

The y-axis shows the average silhouette width, representing how well-matched hospital with a cluster are compared to hospitals in other clusters.

The x-axis shows individual hospital sites.

The dotted horizontal line represents the average silhouette width of the clusters.

A. Early Pandemic Stage: Nine separate clusters with average silhouette width of 0.22, representing poorly-matched hospital medication practice within clusters.

B. Mid-Late Pandemic Stage: Two separate clusters with average silhouette width of 0.43, representing improved matching of hospital medication practice within clusters.

Supplemental Figure 3: Early vs mid-late pandemic stage medication practice using the optimal clusters determined by the silhouette method

Cluster plots depicting the visual spread of hospital-level medication practice pattern clusters using the optimal number of clusters determined by the silhouette method.

Each numbered point represents a hospital site. Each color represents a separate medication practice pattern.

A. Early Pandemic Stage: Nine separate clusters with poor internal cohesion and external separation of clusters.

B. Mid-Late Pandemic Stage: Two separate clusters with improved internal cohesion and external separation of clusters.

Supplemental Figure 4: Optimal cluster selection of the early vs mid-late pandemic stage using the elbow method

Line plots of the optimal number of clusters determined by the elbow method based on hospital-level repurposed medication use in the early vs mid-late pandemic stage.

The y-axis shows the average silhouette width, representing how well-matched hospitals within a cluster are compared to hospitals in other clusters.

The x-axis shows the number of clusters.

The dotted vertical line represents the optimal number of clusters.

Supplemental Figure 5: Average silhouette width of the early vs mid-late pandemic stage using the optimal clusters determined by the elbow method

Bar plots depicting the average silhouette width using the optimal number of clusters determined by the elbow method.

The y-axis shows the average silhouette width, representing how well-matched hospital with a cluster are compared to hospitals in other clusters.

The x-axis shows individual hospital sites.

The dotted horizontal line represents the average silhouette width of clusters.

A. Early Pandemic Stage: Five separate clusters with average silhouette width of 0.24, representing poorly-matched hospital medication practice within clusters.

B. Mid-Late Pandemic Stage: Three separate clusters with average silhouette width of 0.41, representing improved matching of hospital medication practice within clusters.

Supplemental Figure 6: Early vs mid-late pandemic stage medication practice using the optimal clusters determined by the elbow method

Cluster plots depicting the visual spread of hospital-level medication practice pattern clusters using the optimal number of clusters determined by the elbow method.

Each numbered point represents a hospital site. Each color represents a separate medication practice pattern.

A. Early Pandemic Stage: Five separate clusters with poor internal cohesion and external separation of clusters.

B. Mid-Late Pandemic Stage: Three separate clusters with improved internal cohesion and external separation of clusters.

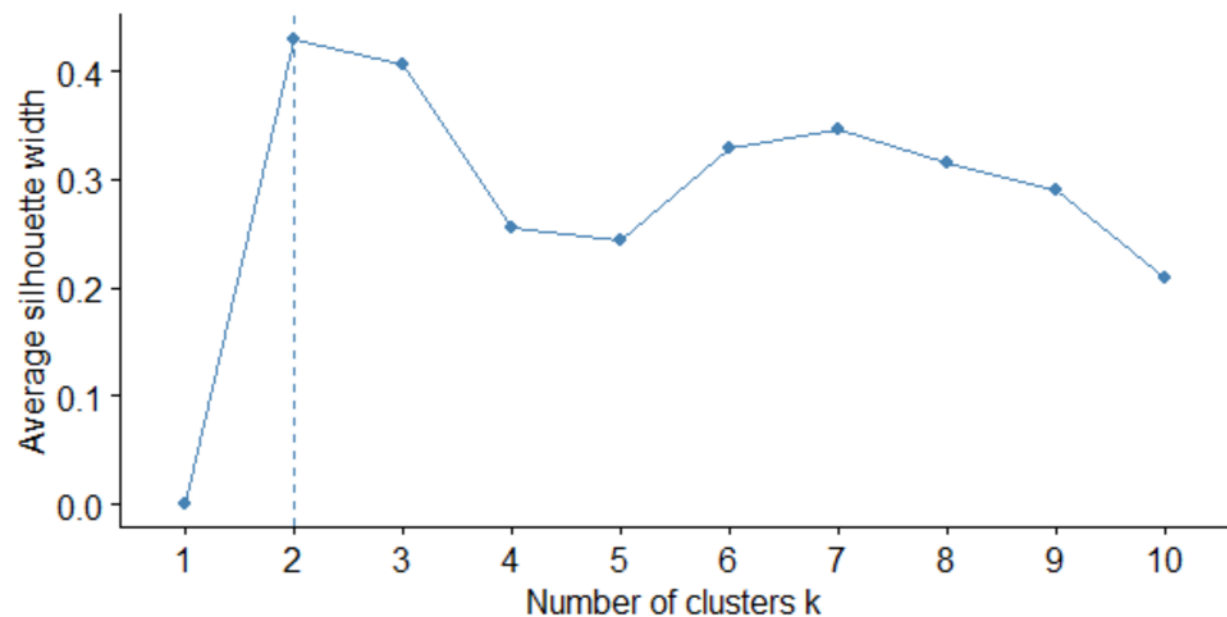
Early Pandemic Stage - Optimal Number of Clusters

Silhouette method



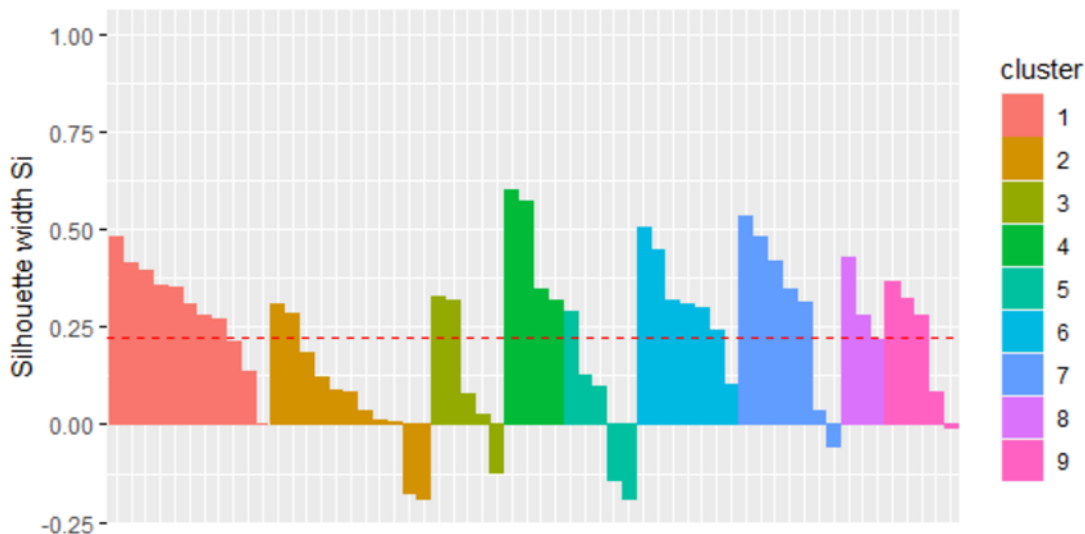
Mid-Late Pandemic Stage - Optimal Number of Clusters

Silhouette method



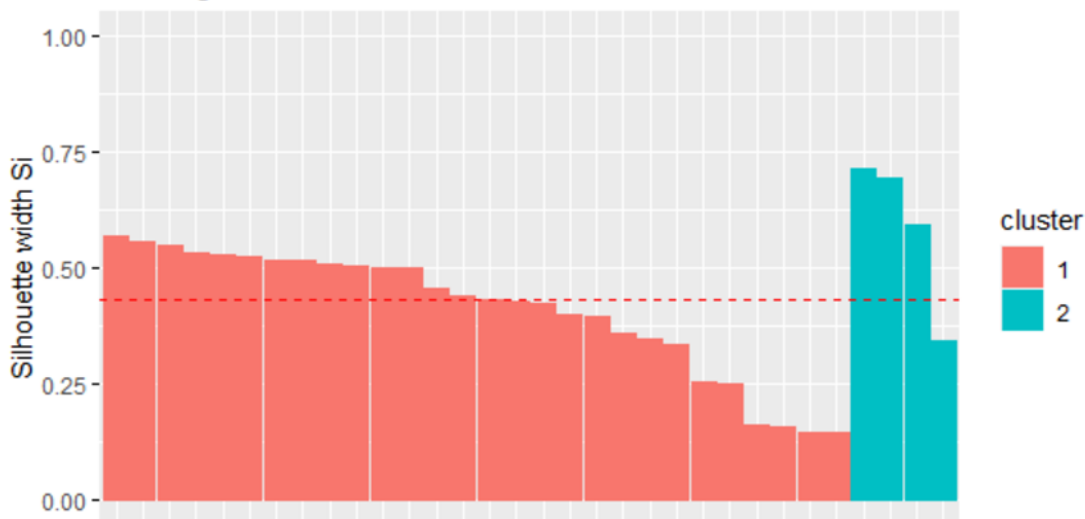
A. Early Pandemic Stage

Clusters silhouette plot
Average silhouette width: 0.22

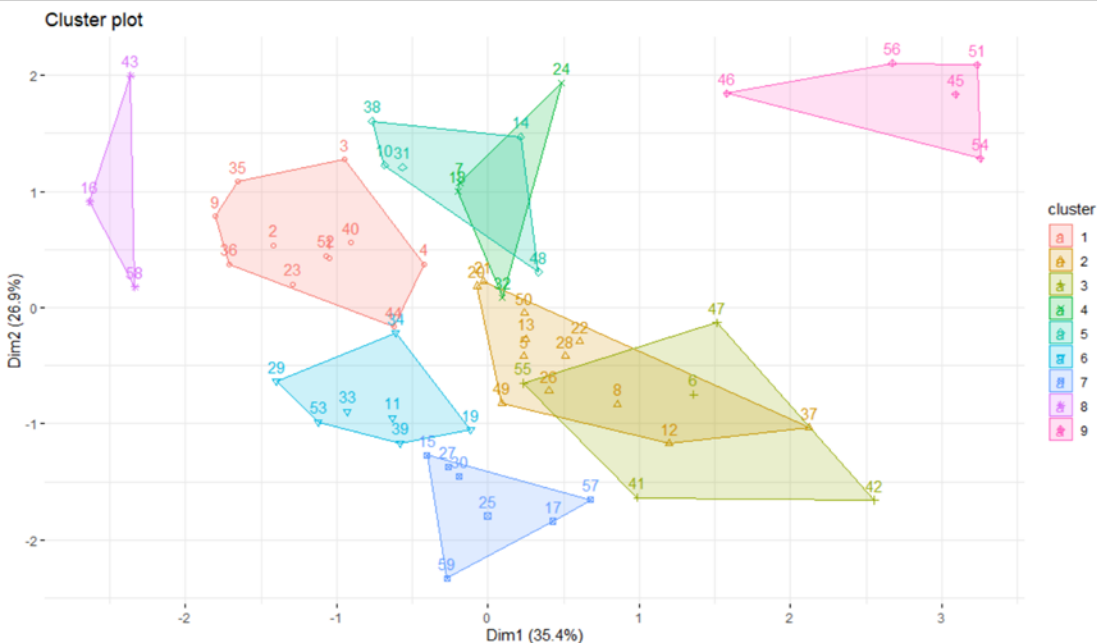


B. Late Pandemic Stage

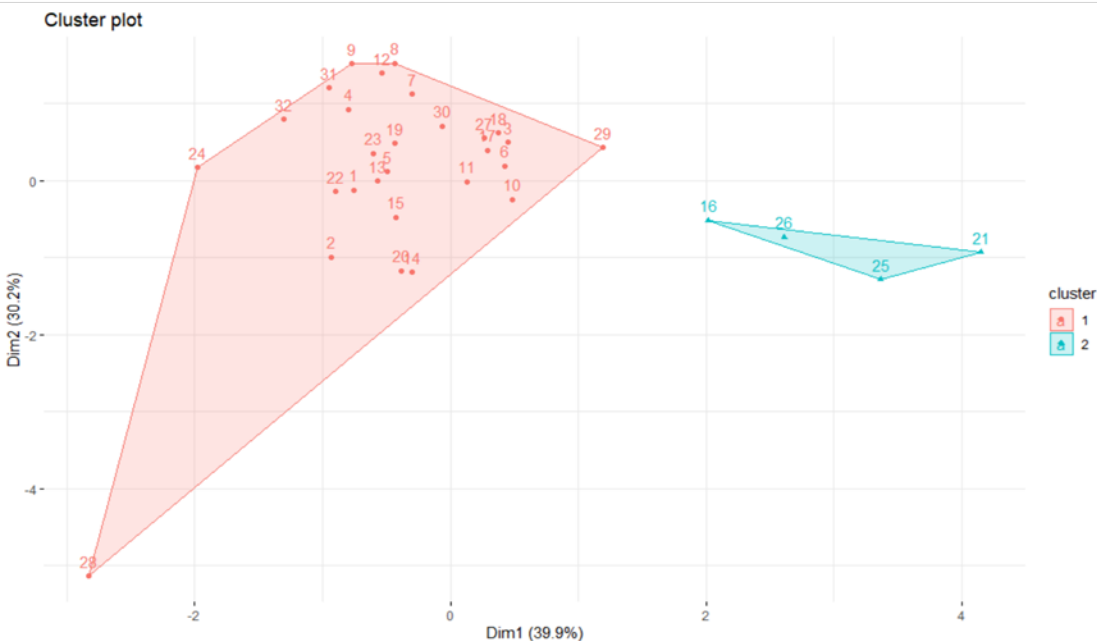
Clusters silhouette plot
Average silhouette width: 0.43



A. Early Pandemic Stage

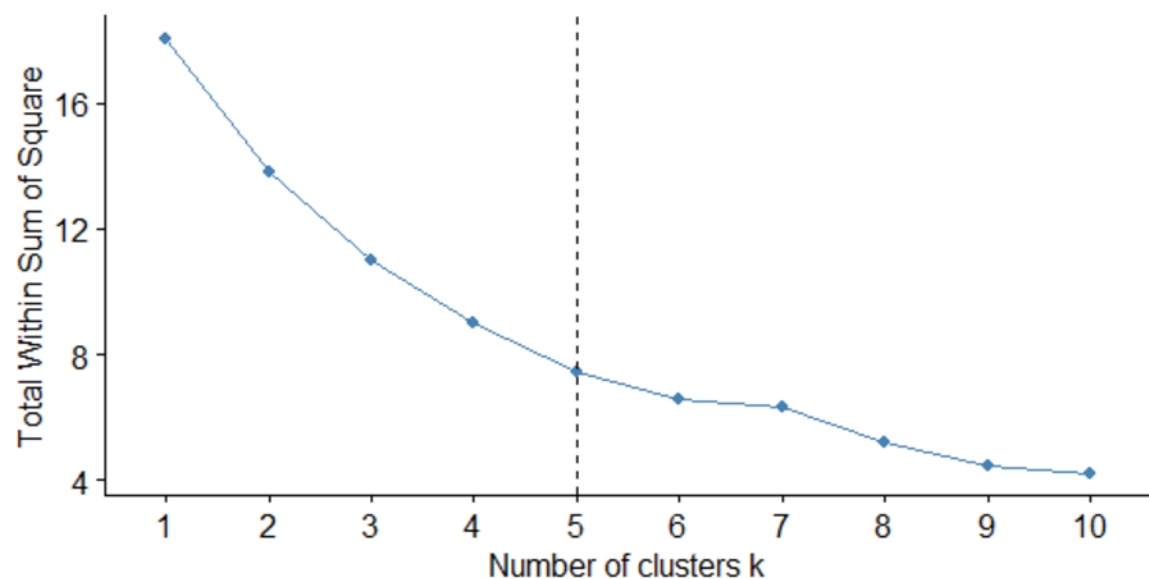


B. Mid-Late Pandemic Stage



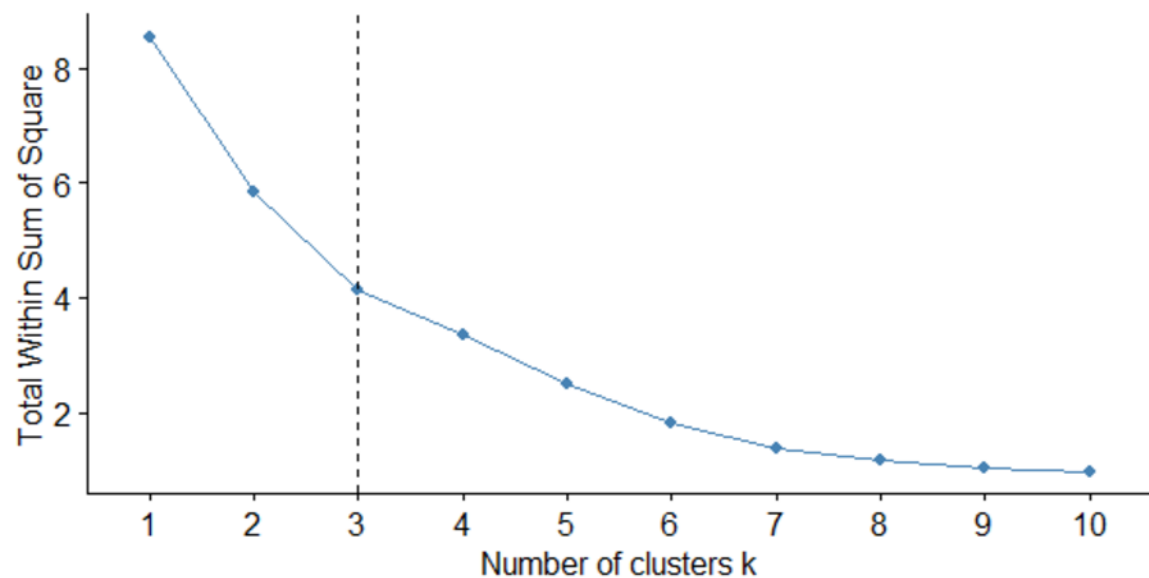
Early Pandemic Stage - Optimal Number of Clusters

Elbow method



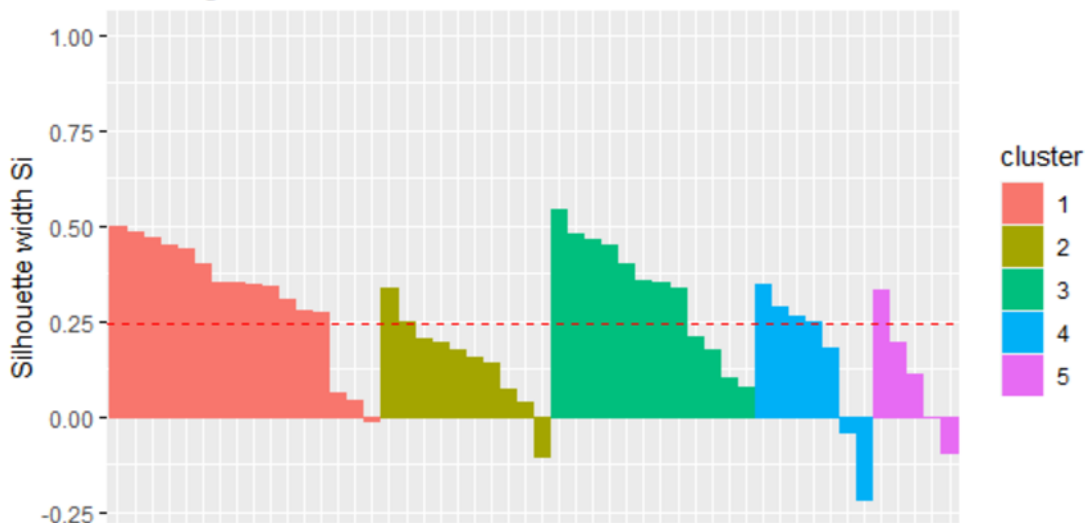
Mid-Late Pandemic Stage - Optimal Number of Clusters

Elbow method



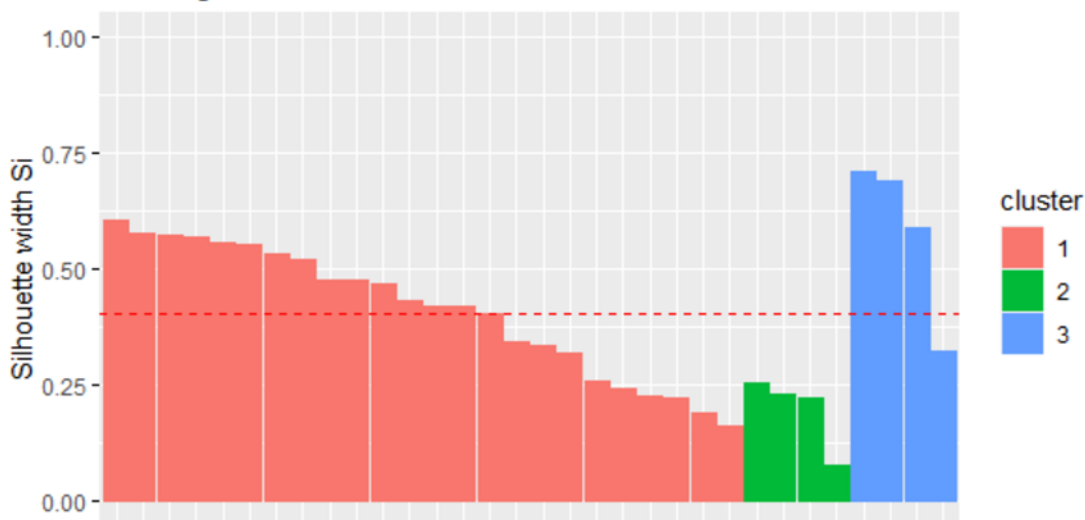
A. Early Pandemic Stage

Clusters silhouette plot
Average silhouette width: 0.24



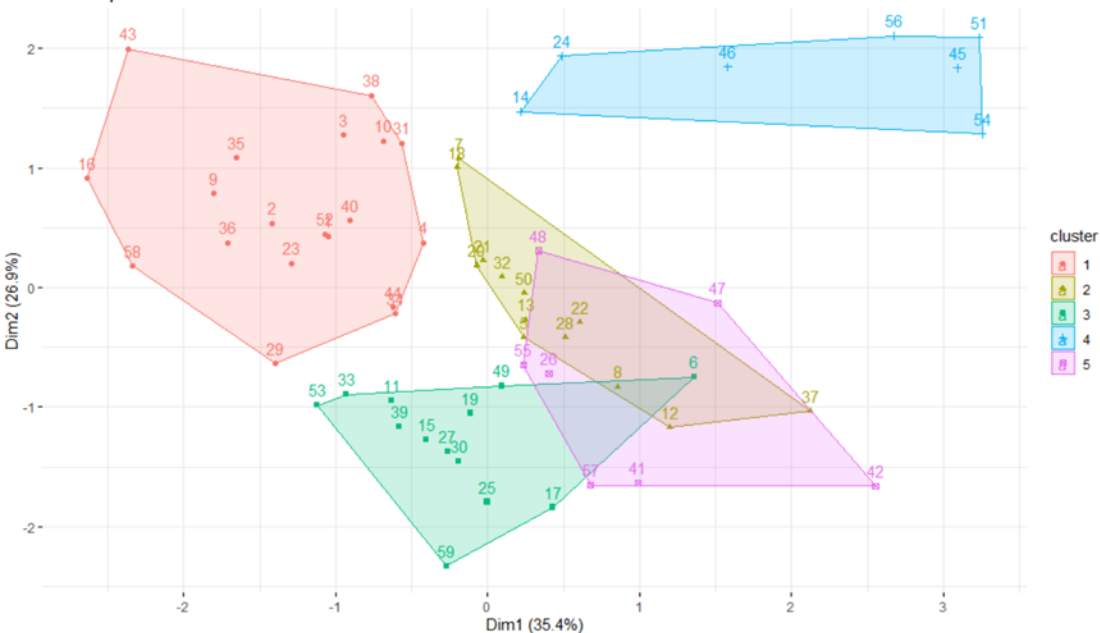
B. Mid-Late Pandemic Stage

Clusters silhouette plot
Average silhouette width: 0.41



A. Early Pandemic Stage

Cluster plot



B. Mid-Late Pandemic Stage

Cluster plot

